

SEQUENCE LISTING



<110> Bujard, Hermann

<120> Method for producing recombinants intended for use in a complete Malaria antigen GP190/MSP1

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<140> 09/269,874

<141> 1999-08-02

<150> PCT/EP97/05441

<151> 1997-10-02

<150> DE 19640817.2

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 Ile Pro Val Met Tyr Ser Met Phe Asp Ser Leu Asn Asn Ser Leu Ser
 835 840 845
 Gln Leu Phe Met Glu Ile Tyr Glu Lys Glu Met Val Cys Asn Leu Tyr
 850 855 860
 Lys Leu Lys Asp Asn Asp Lys Ile Lys Asn Leu Leu Glu Glu Ala Lys
 865 870 875 880
 Lys Val Ser Thr Ser Val Lys Thr Leu Ser Ser Ser Met Gln Pro
 885 890 895
 Leu Ser Leu Thr Pro Gln Asp Lys Pro Glu Val Ser Ala Asn Asp Asp
 900 905 910
 Thr Ser His Ser Thr Asn Leu Asn Asn Ser Leu Lys Leu Phe Glu Asn
 915 920 925
 Ile Leu Ser Leu Gly Lys Asn Lys Asn Ile Tyr Gln Glu Leu Ile Gly
 930 935 940
 Gln Lys Ser Ser Glu Asn Phe Tyr Glu Lys Ile Leu Lys Asp Ser Asp
 945 950 955 960
 Thr Phe Tyr Asn Glu Ser Phe Thr Asn Phe Val Lys Ser Lys Ala Asp
 965 970 975
 Asp Ile Asn Ser Leu Asn Asp Glu Ser Lys Arg Lys Lys Leu Glu Glu
 980 985 990
 Asp Ile Asn Lys Leu Lys Lys Thr Leu Gln Leu Ser Phe Asp Leu Tyr
 995 1000 1005
 Asn Lys Tyr Lys Leu Lys Leu Glu Arg Leu Phe Asp Lys Lys Lys Thr
 1010 1015 1020
 Val Gly Lys Tyr Lys Met Gln Ile Lys Lys Leu Thr Leu Leu Lys Glu
 1025 1030 1035 1040
 Gln Leu Glu Ser Lys Leu Asn Ser Leu Asn Asn Pro Lys His Val Leu
 1045 1050 1055
 Gln Asn Phe Ser Val Phe Phe Asn Lys Lys Lys Glu Ala Glu Ile Ala
 1060 1065 1070
 Glu Thr Glu Asn Thr Leu Glu Asn Thr Lys Ile Leu Leu Lys His Tyr
 1075 1080 1085

Lys Gly Leu Val Lys Tyr Tyr Asn Gly Glu Ser Ser Pro Leu Lys Thr
1090 1095 1100
Leu Ser Glu Glu Ser Ile Gln Thr Glu Asp Asn Tyr Ala Ser Leu Glu
1105 1110 1115 1120
Asn Phe Lys Val Leu Ser Lys Leu Glu Gly Lys Leu Lys Asp Asn Leu
1125 1130 1135
Asn Leu Glu Lys Lys Leu Ser Tyr Leu Ser Ser Gly Leu His His
1140 1145 1150
Leu Ile Ala Glu Leu Lys Glu Val Ile Lys Asn Lys Asn Tyr Thr Gly
1155 1160 1165
Asn Ser Pro Ser Glu Asn Asn Thr Asp Val Asn Asn Ala Leu Glu Ser
1170 1175 1180
Tyr Lys Lys Phe Leu Pro Glu Gly Thr Asp Val Ala Thr Val Val Ser
1185 1190 1195 1200
Glu Ser Gly Ser Asp Thr Leu Glu Gln Ser Gln Pro Lys Lys Pro Ala
1205 1210 1215
Ser Thr His Val Gly Ala Glu Ser Asn Thr Ile Thr Thr Ser Gln Asn
1220 1225 1230
Val Asp Asp Glu Val Asp Asp Val Ile Ile Val Pro Ile Phe Gly Glu
1235 1240 1245
Ser Glu Glu Asp Tyr Asp Asp Leu Gly Gln Val Val Thr Gly Glu Ala
1250 1255 1260
Val Thr Pro Ser Val Ile Asp Asn Ile Leu Ser Lys Ile Glu Asn Glu
1265 1270 1275 1280
Tyr Glu Val Leu Tyr Leu Lys Pro Leu Ala Gly Val Tyr Arg Ser Leu
1285 1290 1295
Lys Lys Gln Leu Glu Asn Asn Val Met Thr Phe Asn Val Asn Val Lys
1300 1305 1310
Asp Ile Leu Asn Ser Arg Phe Asn Lys Arg Glu Asn Phe Lys Asn Val
1315 1320 1325
Leu Glu Ser Asp Leu Ile Pro Tyr Lys Asp Leu Thr Ser Ser Asn Tyr
1330 1335 1340
Val Val Lys Asp Pro Tyr Lys Phe Leu Asn Lys Glu Lys Arg Asp Lys
1345 1350 1355 1360
Phe Leu Ser Ser Tyr Asn Tyr Ile Lys Asp Ser Ile Asp Thr Asp Ile
1365 1370 1375
Asn Phe Ala Asn Asp Val Leu Gly Tyr Tyr Lys Ile Leu Ser Glu Lys
1380 1385 1390
Tyr Lys Ser Asp Leu Asp Ser Ile Lys Lys Tyr Ile Asn Asp Lys Gln
1395 1400 1405
Gly Glu Asn Glu Lys Tyr Leu Pro Phe Leu Asn Asn Ile Glu Thr Leu
1410 1415 1420
Tyr Lys Thr Val Asn Asp Lys Ile Asp Leu Phe Val Ile His Leu Glu
1425 1430 1435 1440
Ala Lys Val Leu Asn Tyr Thr Tyr Glu Lys Ser Asn Val Glu Val Lys
1445 1450 1455
Ile Lys Glu Leu Asn Tyr Leu Lys Thr Ile Gln Asp Lys Leu Ala Asp
1460 1465 1470
Phe Lys Lys Asn Asn Asn Phe Val Gly Ile Ala Asp Leu Ser Thr Asp
1475 1480 1485
Tyr Asn His Asn Asn Leu Leu Thr Lys Phe Leu Ser Thr Gly Met Val
1490 1495 1500
Phe Glu Asn Leu Ala Lys Thr Val Leu Ser Asn Leu Leu Asp Gly Asn
1505 1510 1515 1520
Leu Gln Gly Met Leu Asn Ile Ser Gln His Gln Cys Val Lys Lys Gln
1525 1530 1535
Cys Pro Gln Asn Ser Gly Cys Phe Arg His Leu Asp Glu Arg Glu Glu
1540 1545 1550

Cys Lys Cys Leu Leu Asn Tyr Lys Gln Glu Gly Asp Lys Cys Val Glu
1555 1560 1565
Asn Pro Asn Pro Thr Cys Asn Glu Asn Asn Gly Gly Cys Asp Ala Asp
1570 1575 1580
Ala Lys Cys Thr Glu Glu Asp Ser Gly Ser Asn Gly Lys Lys Ile Thr
1585 1590 1595 1600
Cys Glu Cys Thr Lys Pro Asp Ser Tyr Pro Leu Phe Asp Gly Ile Phe
1605 1610 1615
Cys Ser Ser Ser Asn Phe Leu Gly Ile Ser Phe Leu Leu Ile Leu Met
1620 1625 1630
Leu Ile Leu Tyr Ser Phe Ile
1635